

TWIN CITY ATARI INTEREST GROUP NEWSLETTER

August 1983

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President: Phil Seifert (448-7042) Vice President: Dale Panton
Secretary: Rick Christian Treasurer: Jim Dahlberg

JULY MEETING NOTES

PHIL SEIFERT OPENED THE MEETING BY ABDICATING HIS THRONE AS KING GAMES I, & INTRODUCING THE OFFICERS. HE APOLOGIZED FOR THE LATENESS OF THE LAST NEWSLETTER AND SAID THAT THERE WERE EXTRAS AVAILABLE AFTER THE MEETING.

THE GOOD NEWS WAS THAT THE NEW HARDWARE IS FINALLY STARTING TO COME OUT. THE BAD NEWS IS THAT THE 1050 DISK DRIVE READ SPEED VARIES. ATARI HAS COME OUT WITH AN 80 COL CARD FOR THE COMPUTER.

A SWAP MEET, HELD PRIOR TO THIS MEETING, HAD A GOOD TURN OUT.

A NEW MAGAZINE, "PERIPHERALS, ETC.", IS NOW AVAILABLE.

BBS PROBLEMS: SOME PEOPLE, WITH NEW PHONES, HAVE BEEN EXPERIENCING PROBLEMS WITH THE ANCHOR SIGNAL MAN PROB'S. ALSO, BBS WILL MOVE TO THE BACKROOMS AT WIZARD WORKS, BUT NO PHONE NUMBER IS AVAILABLE YET. THE NEW BBS WILL REQUIRE A PASSWORD. MEMBERS WERE ASKED TO FILL OUT A 3X5 CARD AT THE MEETING. THE CARDS WILL BE MAILED BACK TO MEMBERS WITH THEIR PASSWORD ON THEM.

MIKE DOLEMAN WILL BE IN CHARGE OF ARRANGING A MODEM TUTORIAL ABOUT PROBLEMS WITH DATA TRANSMISSIONS OVER PHONE LINES. THE MEETING IS TO BE HELD AT 6:00 PM AT THE AUGUST MEETING.

THERE WILL BE AN X-MODEM TUTORIAL PRIOR TO THE SEPTEMBER MEETING, AS WELL.

WE HAD 2 SPECIAL GUESTS AT THE JULY MEETING. THEY WERE JOHN BECK, PRES. OF MAGIC GROUP IN DES MOINES, IA, & JIM NORDSTROM, PRESIDENT OF THE ATARI GROUP IN ROCKFORD, ILL.

TODD BURKEY NEEDS HELP WITH THE NEWSLETTER. IF YOU WANT TO WRITE AN ARTICLE FOR THE NEWSLETTER OR WANT TO PLACE AN AD (\$30.00 PER PAGE DIVISIBLE UP TO 6), PLEASE LET HIM KNOW. SEE THE MAY NEWSLETTER FOR DETAILS.

BILL NORDSTROM, EDUCATIONAL GROUP, PRESENTED AN EDUCATIONAL DISK OF THE MONTH FOR ALL AGES. THERE WAS NO TOUCH-TYPE PROGRAM THIS MONTH AND NO CASSETTE VERSION AVAILABLE.

MINNESOTA RESIDENTS CAN PURCHASE THE MECC SOFTWARE AVAILABLE THRU APX. THIS SPECIAL PRICE IS ONLY FOR MN. RESIDENTS. EXTRA COPIES OF THE APX CATALOG WERE AVAILABLE.

WAYNE VASSAL, LIBRARIAN, SAID THAT HE HAS NEW LISTINGS FOR THE ENTIRE LIBRARY. HE ALSO REPORTED THAT XMODEM.43 REQUIRES THE MEMSAVE FILE, NO BASIC & RS-232 AUTORUN.SYS. THIS IS AN IMPROVED VERSION OF XMODEM.

TOM MOORE, MEMBERSHIP, REPORTED THAT THERE ARE NOW 395 ACTIVE MEMBERS. THE DELINQUENT MEMBERS WILL NOT GET A NEWSLETTER NEXT MONTH. POOR DEVILS!

DALE PANTON TALKED ABOUT THE PLAYER-MISSILE GROUP AND WHAT THEY ARE UP TO THESE DAYS.

MIKE DAVIS HAS 3 ALMOST FULL DISKS FOR THE ADVANCED MUSIC SYSTEM, AS WELL AS 1 DISK FOR MUSIC COMPOSER.

A SHOW OF HANDS BY MEMBERS INDICATED AN INTEREST IN BUILDING THEIR OWN MODEM. THERE WILL BE MORE INFO AVAILABLE AT THE NEXT MEETING.

LIST OF AUTHORIZED SERVICE CENTERS: 1) H&H TV - ST. LOUIS PARK; 2) AUDIO SOUND; 3) S&A ELECTRONICS (UNIV. AVE. IN ST. PAUL) WAS RATED EXCELLENT BY MEMBERS. USER FRIENDLY, WHICH IS NOT AN AUTHORIZED ATARI SERVICE CENTER, RECEIVED MIXED REVIEWS FROM THOSE PRESENT.

THE JULY DEMOS WERE: 1) A/F 80 COL CARD; 2) DUEL DUEL; 3) BLUE MAX; 4) DISASSEMBLER.

Editors' Note: Please use UP/LOW case in your articles or I will have to italicize them as I did here. They also might not get printed...

Library

The list of software on this month's disk will be available at the meeting. -ed

Free Software by Todd Burkey

No, I am not advocating piracy. I recently got tired searching for phone numbers scribbled on pieces of paper around my computer. Since it didn't make sense to set up a FILE FAX database just for phone numbers (by the time I loaded a database program in and then my data disk, I could go through my scraps twice), I decided to write a quick load (no DOS) phone index program. This program loads into the computer in less than 10 seconds and can search through a list of hundreds of phone numbers in the blink of an eye. All of the instructions are on the screen (basically, you can add, delete, scan, and save your changes to disk) and both program and data fit on the same disk (data is loaded automatically when you boot up). Each entry is sorted automatically by the persons' last name when it is entered to facilitate scanning and to allow you to just specify the first few letters of a persons last name when you wish to find their phone number. A completely in-core database is used so that disk access only occurs during initialization and the final save. This is how I can search and sort in less than a second.

Why did I say free software? Because I only spent several days writing this program. What I am going to do is have the program available at the meeting on diskette for \$8.00 or through the mail for \$10.00. This cost covers the cost of the diskette and the time to prepare the diskettes. This will also give you free access to any future versions of the SU-PHONE INDEX program if I should think of any improvements.

WARNING...The program does have a limitation of 1500 phone numbers on a 48K machine (350 on a 16K). If you know that many people, better go back to FILE FAX or go on a long vacation.

FROM THE EDITOR By Todd Burkey

Well, what can I say. I recieved one article this month besides the meeting minutes. I see other newsletters are getting pretty bare as well (most last month were entirely about the new ATARI lineup, but you could read that in COMPUTE or ANTIC). I may have to resort to cutting articles out of old newsletters if I don't get any articles very soon. I was going to do a rebuttal of my own articles, but that would be too tacky...oh well.

The ATR8000 Is Coming By Todd Burkey

After many months of comparing capabilities and waiting for prices to drop, a friend of mine recently bought a 64K ATR8000 add on to his ATARI. This friend, Ralph Jenson, will hopefully be able to demo his machine at this months' TAIG meeting and submit a writeup on the system in a future TAIG newsletter (maybe this one if time permits.) He did convince me to add one to my system, so I called the company (SWP, formerly Software Publishers), ordered one, and also became the first dealer of the ATR8000 in the cities (as far as I can tell). I had almost decided to get the ATR8000 six months ago when the retail price was \$750, but now it is down to \$500 and I plan on getting a club purchase price of \$415/unit (\$305/unit for the 16K version without CPM software). Contact me if you are interested

So what is the ATR8000? Briefly, it is a Z80 computer with memory that you can add on to your ATARI to obtain CPM capability. At 4MHz, its processor is twice the speed of ATARI's 6502, so it may be nicer for number-crunching. It has an RS232 and a Parallel printer port, so you can use modems and printers without needing an 850 interface. You can also use the Z80s' memory as a printer buffer (so that you can do something else on the computer while your printer is printing). The CPM is the nice part, however, since that allows you to use programs like PERFECT WRITER, DBASE-2, and a thousands of public domain CPM programs, languages, and even games. And even better yet, you can read virtually any other disk format (OSBORNE, KAYPRO, CROMECO, etc.) Even IBM programs can run on the ATR8000 if you buy the Co-processor option, but that is still in the too expensive range to really justify yet.

There are a lot of other features, but I will wait and let Ralph cover those in his article. One good feature that I almost forgot...if you want to use CPM, you need to use non-ATARI disk drives. Percoms can be used. In fact, the single density PERCOMS will become double density under the ATR8000. The reason that this is nice,

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ATR8000 (CONTINUED)

however, is because you can use really inexpensive drives (\$200 each) on the ATR8000 (either 5 or 8 inch). No more worrying about having hardware that is only useful on the ATARI.

STATS:

HARDWARE: ATR8000

COMPANY: SWP

RETAIL: 16K INTERFACE \$350

PRICES: 64K INTERFACE W/CPM \$500

Hardware/Software Notes By Todd Burkey

Not a particularly busy month in terms of hardware. I talked to RANA and found out that the disk drives will be out around the first week in September. RANA made the mistake of making the drives work better than the 810's and this caused some games that used timing and/or illegal disk commands as protection mechanisms, to fail to load. They delayed release to change the drives microcode so that it will be fully compatible with the 810. The new drive has already been sent out to Rana Reps, so I may have a chance to see one before the this month's meeting. The Micro-mainframe disk drive is apparently out. I read a favorable review in another newsletter. I think I will pass on this unit and let someone else bite the bullet in the cities. Besides, I will already have the ATR8000 and cheaper drives. I saw the ATR8000 (see article) and it looks really sharp.

In terms of software, I am sold on BLUE MAX. A 3D scrolling game similar to ZAXXON, BLUE MAX puts you in the cockpit of a fighter plane with machine guns and bombs. Your mission is to shoot other planes and bomb ships, buildings, bridges, cars, airports, bunkers, and artillery. In the meantime, you are avoiding flack and gunfire from almost everything you are shootin at and you have to land at air strips to refuel, reload, and get repaired. I hear that this game does have a conclusion, but so far I always crash into or get shot by something before then.

BLINKER: A Blinking Routine By Todd Burkey

Somewhere or other I found this short routine that allows you to make everything in inverse video (including the cursor), blink. The listing of the pokes necessary to put the routine into memory is included below. Note that I use part of the stack for program storage...so far this hasn't caused any problems for me.

To use the routine, just include it somewhere in the initialization portion of your program. You can turn the blinking off with a POKE 553,0 and turn it on again by A=USR(256). To change the blink speed, just poke location 284 with a number between 1 and 255 (fast to slow). Try poking locations 277 and 279 with different numbers to get special flashing effects.

Program Listing:

```
9022 FOR I=256 TO 256+32:READ M:POKE I,M:
NEXT I:A=USR(256)
9023 DATA 104,169,17,141,40,2,169,1,
141,41,2,169,30,141,26,2,96,173,243,2,
41,23,73,2,141,243,2,169,30,141,26,2,96
```

ATARI MUSIC by Mike Davis

Last month's tutorial went pretty good. One point that should be made about music selections concerns the arrangement of the music. If an easy-play piece is selected, it most likely will sound bland and probably lack good accompaniment and harmony. Usually original pieces sound best.

One of the points made during the tutorial concerns one note being played consecutively. The "/D" option is very valuable in separating the notes to a more pleasing sound. Normally, blips are heard breaking up a long note rather than each note sounding distinctly individual. A demonstration of this effect is quite simple. Boot up the A.M.S. and press "B". Type C5Q (RETURN), C5Q (RETURN), C5Q (RETURN), and Q (RETURN). Now you should be back at the Main menu. Press "A" then "L" and listen to the three notes. Now press "C" then "Y". Press "B" and type C5Q/D (RETURN), C5Q/D (RETURN), C5Q/D (RETURN), and Q (RETURN). Press "A" then "L" and listen to the difference.

ATARI MUSIC (CONTINUED)

Nine songs were contributed to our music files. Eight were from Mike Buchmann. They were "Star Wars", "Alexander's Ragtime Band", "Alleycat", "How Much is That Doggie in the Window", "Up, Up and Away", "It's a Small World", "I'd Like to Teach the World to Sing", and "Stars and Stripes Forever". His sister, Ann, contributed "Voices of Spring". My additions are "76 Trombones", "Take Me Out to the Ballgame", and also "It's a Small World".

I am arranging the music files into volumes. One volume is both sides of one disk. As a volume is completed, I will make copies for the membership. At this time, volume 1 is complete. Volume 2 is just half-full. Christmas music will be kept in a volume to itself. This also applies to multiple part pieces.

Questions And Answers by BBB

The answer to the previous month's question follows this article. Basically, I was asked for information describing the XMODEM protocol. The information below is message file reprinted from a Multics computer. I hope it answers any questions you may have about the way the protocol works. I didn't receive any questions this month, but I am sure that someone must have questions of some sort. I so, please give me a call (542-1027, ask for Barb).

MODEM/XMODEM Protocol Explained
by Kelly Smith, CP/M-Net "SYSOP"
January 8, 1988
Edited April 28, 1981 - PJW

I thought that it may be of some interest to those of you who use the MODEM/XMODEM file transfer capability to get a little insight as to the communications protocol (i.e. "handshaking method") used by the system.

Herein lie the details of a very good (but not perfect) data communications protocol that has become the "de facto" standard for various remote CP/M systems (RCPM's) which are accessible across the country. (Refer to RCPMLSTx.DOC on all RCPM's for access numbers and note that the "x" in that list changes as new systems are listed). I also wish to give credit to Ward Christensen (the "Original" CBBS) for writing MODEM.ASM (CPMUG Volume 25.1b) and Keith Petersen, Bruce Ratoff, Dave Hardy, Rod Hart, Tom "C" (we know who you are Tom!), and others, for enhancements to Ward's original program which we now call XMODEM (external modem).

Data is sent in 128-byte sequentially numbered blocks, with a single checksum byte appended to the end of each block. As the receiving computer acquires the incoming data, it performs its own checksum and upon each completion of a block, it compares its checksum result with that of the sending computers. If the receiving computer matches the checksum of the sending computer, it transmits an ACK (ASCII code protocol character for ACKNOWLEDGE (04 Hex, Control-F)) back to the sending computer. The ACK therefore means "all's well on this end, send some more..."

Notice in the following example, that the sending computer will transmit an "initial NAK" (ASCII protocol character for NEGATIVE ACKNOWLEDGE (15 Hex, Control-U))...or, "that wasn't quite right, please send again".

Due to the asynchronous nature of the initial "hook-up" between the two computers, the receiving computer will "time-out" looking for data, and send the NAK as the "cue" for the sending computer to begin transmission. The sending computer knows that the receiving computer will "time-out", and uses this fact to "get in sync"... The sending computer responds to the "initial NAK" with a SOH (ASCII code protocol character for START OF HEADING (01 Hex, Control-A)), sends the first block number, sends the 1's complement of the block number (VERY important, I will discuss this later...), sends 128 bytes of 8 bit data (that's why we can transfer ".COM" files), and finally a checksum, where the checksum is calculated by summing the SOH, the block number, the block number 1's complement, and the 128 bytes of data.

Receiving Computer:

```
-----/NAK/-----/ACK/-----
15H                                06H
```

Sending Computer:

```
-----/SOH/BLK#/BLK#/DATA/CSUM/---/SOH/BLK#/BLK#/DATA/etc.
01H 001H 0FEH 8bit 8bit 01H 002H 0FDH 8bit ....
```

This process continues, with the next 128 bytes, IF the block was ACK'ed by the receiving computer, and then the next sequential block number and its 1's complement, etc.

But what happens if the block is NAK'ed?... Easy, the sending computer just re-sends the previous block.

Now the hard part... What if the sending computer transmits a block, the receiving computer gets it and sends an ACK, but the sender does not see it?... The sending computer thinks that it has failed and after 18 seconds re-transmits the block... ARGH!... The receiving computer has "stashed" the data in memory or on disk (data is written to disk after receiving 16 blocks), the receiving computer is now 1 block AHEAD of the transmitting computer! Here comes the operation of the block numbers... The receiver detects that this is the last block (all over again), and transmits back an ACK, throws away the block, and (effectively) "catches up"... clever! What's more, the integrity of the block number is verified by the receiving computer, because it "sums" the SOH (01 Hex) with the block number plus the 1's complement of the block number, and the result MUST BE zero for a proper transfer (e.g. 01+01+FE hex = 00, on the first block). The sequence of events then, looks like this:

Receiving Computer:

```
-----/ACK/-----/NAK/-----
06H                                15H
```

Sending Computer:

```
CSUM/---/SOH/BLK#/BLK#/DATA/CSUM/---/SOH/BLK#/BLK#/DATA/etc.
8bit 01H 003H 0FCH 8bit 8bit 01H 003H 0FCH 8bit ....
```

Normal completion of data transfers will then conclude with an EOT (ASCII code protocol END OF TRANSMISSION, 04 Hex, Control-D) from the sending computer, and a final ACK from the receiving computer. Unfortunately, if the receiving computer misses the EOT, it will continue to wait for the next block (sending a NAK every 18 seconds, up to 18 times) and eventually "time-out". This is rarely the case however, and although not "bullet-proof", it is a very workable protocol.

Receiving Computer:

```
-----/ACK/---/ACK/"Transfer Complete"/A>(or B>)
06H 06H .....
```

Sending Computer:

```
CSUM/---/EOT/---/A>(or B>)
8bit 04H .....
```

In some cases, where the telephone transmission is repeatedly "trashed" (weak signals, multiple noise "hits", etc.), the receiving computer (and operator) will be provided the option to quit. Here, the operator enters "R" or "Q" in response to "Retry or Quit?" (after 18 retries).

Receiving Computer:

```
-----/NAK/...NAK's ten times.../"Retry or Quit?"(Q)/A>...
15H
```

Sending Computer:

```
CSUM/---/...Garbled Data...../-----/A>...
8bit
```

A final consideration when using the MODEM program, is a timing related problems when transfer status messages and/or textual data is directed to the screen of a slow (4800 Baud or less) terminal or to a hard copy printer. This problem is readily apparent (multiple NAK's) when using MODEM for the first time, and can usually be "cured" by NOT SPECIFYING the "v" (VIEW) sub-option when sending or receiving files. Users of Lifeboat Associates BSTAM encounter the same problem, but this is easily fixed with the files TOPATCH.ASM and RQPATCH.ASM (transfer quiet/receive quiet) that Keith Petersen (Royal Oak CP/M, "call-back" remote system, (313)-588-7854) wrote to solve the problem of low speed terminal I/O.

For users of CBBS's that do not have MODEM.ASM (but DO HAVE a CP/M disk system...ESSENTIAL!), let me suggest that you "data capture" the file MBOOTX.ASM from one of the RCPM's (it's a small 8 kilo-byte file that "fits" in most systems' memory) to get the larger MODEM.ASM (48 kilo-bytes). Check it very carefully for errors using the "data capture" (read ERROR PRONE method here). Then edit and assemble for your modem configuration.

If you are tired of buying software where the advertisement is written better than the program, then the RCPM's are just what you have been looking for...and FREE!



PRAIRIE MICROSYSTEMS, INC.
Software Development / Computer Sales - Services
941-4504



NEW PRODUCTS

AUGUST IS A GOOD TIME FOR TAKING IT EASY AND DREAMING ABOUT ALL THE NEW ATARI AND THIRD-PARTY PRODUCTS UPCOMING. SO, WE'D LIKE TO SHARE SOME INFORMATION ABOUT WHAT'S ON THE HORIZON, AND PRAIRIE'S PRICES FOR TAIG MEMBERS WHEN THE PRODUCTS DO BECOME AVAILABLE (ALL ARE PROMISED FOR SOMETIME IN AUGUST.)

DISK DRIVES

		RETAIL	PRAIRIE
RANA 1000	SINGLE/DUAL DENSITY	\$449.00	\$320.00
ATARI 1050	SINGLE/DUAL DENSITY	\$449.95	\$350.00

PRINTERS

ATARI 1027 LETTER QUALITY PRINTER: 40 CPS; 40/80/132 COLUMNS PER LINE; FRICTION/TRACTOR FEED; DIRECT CONNECT TO ATARI (W/OUT 850 INTERFACE)

RETAIL	PRAIRIE
\$349.95	\$285.00

GRAPHICS TABLET

WHAT MIGHT BE THE MOST EXCITING NEW PERIPHERAL SINCE DISK DRIVES IS ALSO EXPECTED TO BE RELEASED THIS MONTH. THE KOALAPAD IS A TOUCH TABLET WHICH HAS BEEN DESCRIBED AS FRIENDLIER THAN A KEYBOARD, FASTER THAN PADDLES, AND MORE VERSATILE THAN A JOYSTICK. I HAVE SEEN THE APPLE VERSION, AND CAN ONLY DESCRIBE IT AS FANTASTIC! HOPE TO HAVE ONE AVAILABLE FOR A DEMONSTRATION AT THE NEXT MEETING.

RETAIL	PRAIRIE
\$99.95	\$85.00

* P R A I R I E M I C R O S Y S T E M S * 9 4 1 - 4 5 0 4 *

8711 Black Maple Dr. Eden Prairie, MN 55344

NEW

FREE PRICE LIST

It contains about 700
Programs listed from A to Z.
Pick one up from me at the
next TAIG Meeting or call to
have one mailed out.

Here are a few samples from
the list.

HOME ACCOUNTANT/D	52.97
BASM /D	74.50
TYPE ATTACK /D	28.97
PM ANIMATOR /D	25.97
JUMPMAN JUNIOR /R	28.97
JUICE D/C	22.97
SHADOW WORLD D/C	25.97
BLUE MAX D/C	25.97
DRELBS D/C	25.97
ZEPPPELIN D/C	25.97
WITNESS /D	34.97
MS.PAC-MAN /R	37.75

computer
FOOD

(612) 560-2917

See you at
the next
TAIG Meeting
or call
to order.



SOFTWARE

TYPEWRITER- Text processor.....20.00
HOME USER PACK- Addresser, Cardfile, Financer, and
Grapher I.....30.00
PROGRAMER- Usefull utilities.....25.00

HARDWARE

KEYPAD H- For numeric entry, BASIC subroutine is
included.....25.00
KEYPAD N- For numeric entry, no handler needed but
must be wired into computer (15.00).....35.00
LIGHT PEN- With software.....30.00

INDEPENDENT PROGRAMER MARKETING
P.O. Box 23123 Richfield, MN 55423

(612) 861-1893

TWINCITY ATARI INTEREST GROUP
6824 QUEEN AVE. S.
RICHFIELD, MN 55423

2547
83 RD
CTH

Next TAIG Meeting:

Sunday, August 28, 1983

Modem Tutorial - 6:00 P.M.

TAIG - 7:00 P.M.

Odd Fellow's Lodge
3003 27th Ave. S.
Mpls, MN

